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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,526	02/21/2002	Henry L. Sterchi	723-1259	3040

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11/19/2003

NIXON & VANDERHYE P.C.
8th Floor
1100 North Glebe Road
Arlington, VA 22201

EXAMINER

PAPPAS, PETER

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/078,526

Applicant(s)

STERCHI ET AL.

Examiner

Peter-Anthony Pappas

Art Unit

2671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 21 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: misspelling and grammar. For example, see page 3, where "One approach that has appeal is to make the animation engine responsible for animated characters increasingly more intelligent" should read "One approach that has appeal is to make the animation engine responsible for making animated characters increasingly more intelligent" Applicant should review all documents for further misspellings and grammatical corrections.

Claim Objections

2. Claim 5 is objected to because of the following informalities: misspelling and grammar. See page 24, where "...modifying the characters animation..." should read "...modifying the character's animation..." and "...location in the virtual word..." should read "...location in the virtual world..." Applicant should review all documents for further misspellings and grammatical corrections.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Ventrella et al. (U.S. Patent No. 6, 545, 682).

5. In regards to claim 1 Ventrella et al. discloses:

(a) defining a tag at a location in the virtual environment, and assigning tag information to the tag that designates a type of reaction for the character when in proximity to the tag;

- Other genes may determine personality traits of the avatar, such as alertness, shiftiness, curiosity, or tendency to daydream. Such genes influence the behavior of the avatar independently of any direct user input for controlling the avatar. See column 3, lines 23-27.
- Certain ones of these personality traits can be expressed by causing appropriate movement of the head and/or eyes of the avatar in response to certain types of stimuli or lack of stimuli, but independently of any direct user control. See column 17, lines 48-51.
- When the next non-priority stimulus is detected, a determination is made of whether the curiosity value is within the previously set curiosity response range. A “non-priority stimulus” is an event occurring in the virtual world, other than a direct user input for controlling the avatar or a something significant occurring close to the avatar. The criteria for deciding whether an event is “significant” or “close to” the avatar are discretionary; any reasonable criteria may be used. See column 19, lines 40-59.

- Alertness can be simulated by controlling the speed at which the head of the avatar rotates towards a point of interest (“focus point”) in the virtual environment. The head of the avatar may be turned in response to a control input from the user or in response to some other stimuli that is independent of the user. The focus point F may be any 3-D point in the virtual world which the avatar wants to look at, such as a bird. See column 18, lines 13-34.

6. It is noted that as disclosed above in claim 1 said tag can consist of being either part of or a whole element (object, stimuli, etc.) at a given location, which warrants said type of reaction. In addition, while Ventrella et al. discloses that tag information, tied to a given tag (i.e. stimuli), is stored within the genes of an avatar that same tag information must be linked to the element (object, stimuli, etc.) in the virtual environment, so to warrant a connection between the gene and its behavior (if one exists) as they pertain to this element. Otherwise a reaction cannot be detect and thus processed. Ventrella et al. discloses the example of a personality trait “Alertness” above, wherein without some identifier on both the avatar (i.e. gene tag) and the bird (i.e. object tag) said link, to warrant a given reaction, cannot be completed.

(b) animate the character using a scripted animation sequence in response to user inputs;

- The animation system can also use one or more animation scripts, which may be in response to user input, to generate movement of the avatar. See column 10, lines 11-14.

- The avatar brain is a module which controls, among other things, the actions of the avatar in response to user inputs from the local user. These actions may include, for example, walking, talking, picking up objects, shaking hands, etc. See column 9, lines 60-64.

(c) detecting when the character is within a predetermined proximity to the tag;

- When the next non-priority stimulus is detected, a determination is made of whether the curiosity value is within the previously set curiosity response range. A "non-priority stimulus" is an event occurring in the virtual world, other than a direct user input for controlling the avatar or a something significant occurring close to the avatar. The criteria for deciding whether an event is "significant" or "close to" the avatar are discretionary; any reasonable criteria may be used. See column 19, lines 40-48.

(d) when the character is within a predetermined proximity to the tag, using the location of the tag and the tag information to dynamically modify the character's animation in real time.

- If the curiosity value falls within the set range, then the avatar is caused to respond to the stimulus and the process disclosed in 1(c) is repeated. If, however, the curiosity value is outside of the set range, then the avatar ignores the stimulus and the process disclosed in 1(c) is repeated. For example, the response may simply entail turning the avatar's head and/or eyes to look at a focus point. Column 19, lines 48-58.

- The avatar brain provides output of the animation system. In general, the animation system generates or modifies the avatar attributes in real-time. See column 10, lines 7-10, and Fig. 10, 116.

7. It is noted that said avatar attributes (see Fig. 10, 116) consist of the following elements, which when applied allow for the possible modification of a character's animation: Body Surface Proportions, Body Surface Textures, Skeletal Proportions, Global Position and Orientation, Skeletal Bone Rotations and Faction Control Vertices.

8. In regards to claim 2 Ventrella et al. discloses:

The method of claim 1, further including detecting when the character is no longer within the predetermined proximity to the tag and, upon such detection, returning to the scripted animation for the character.

- The rationale provided in the rejection of claims 1(c) and 1(d) are incorporated herein.

9. In regards to claim 3 Ventrella et al. discloses:

The method of claim 1, further including using key frames, inbetweening and inverse kinematics to dynamically modify the character's animation when in proximity to the tag.

- The animation system can also use one or more animation scripts, which may be in response to user input, to generate movement of the avatar on a frame-by-frame basis. This process may include blending together two or more animation scripts using a weighting that is determined by one or more genes. Blending of animation scripts may be accomplished by, at each frame of the output script,

computing a feature (e.g., the position of a body part or an angle) as a weighted function of that feature in the corresponding frames of each of the input scripts.

See column 10, lines 11-21.

10. It is noted that the process disclosed above is considered to use elements that read on those used in a key framing process, where key frames are identified and/or created, to guide animation.

- The skeletal bone rotations are determined by various sources and then modified, if appropriate, by the Inverse Kinematics (IK) module in the animation system. See column 11, lines 6-9.

11. It is noted that in computer adaptations of keyframing, a process by which key frames are used to donate animation of various types, the process known as tweening, inbetweening and/or in-betweening is a component thereof, handled by a given computer(s) processor(s).

12. In regards to claim 4 Ventrella et al. discloses:

The method of claim 1, further including defining a human-like reaction as the type of reaction and dynamically generating an animation that corresponds to the human-like reaction for the character when in proximity to the tag.

- The technology described herein offers a flexible and generalized system for defining and modifying features and behaviors of avatars, with reasonable, humanoid form and with great variety. See column 5, lines 61-64.

- Other genes may determine personality traits of the avatar, such as alertness, shiftiness, curiosity, or tendency to daydream. Such genes influence the behavior of the avatar. See column 3, lines 23-25.

13. In regards to claim 5 Ventrella et al. discloses:

The method of claim 1, wherein dynamically modifying the character's animation in real time includes causing the character to look at the location in the virtual world where the tag has been defined.

- Alertness can be simulated by controlling the speed at which the head of the avatar rotates towards a point of interest ("focus point") in the virtual environment. The head of the avatar may be turned in response to a control input from the user or in response to some other stimuli that is independent of the user. The focus point F may be any 3-D point in the virtual world which the avatar wants to look at, such as a bird. The avatar's head orientation is continuously catching up to the bird. The head orientation is, at any given time, adapting itself so as to be more accurately aiming at the bird. See column 18, lines 13-34.

14. In regards to claim 6 Ventrella et al. discloses:

The method of claim 1, further including defining a plurality of said tags at different locations in the virtual word and assigning tag information to each tag, wherein each tag causes a different dynamic animation sequence to be generated for the character when the character is within a predetermined proximity thereto.

- The curiosity of the avatar is the tendency of the avatar to look toward an object or event when nothing important is happening in the avatar's immediate vicinity. Thus, the curiosity gene determines the tendency of the avatar to look, automatically (i.e., independently of any user control), toward a low-priority stimulus (e.g., a cat walking slowly by or a new avatar appearing in the distance) in the absence of a high-priority stimulus (e.g., a control input from the user or an object being thrown toward the avatar). A high value of the curiosity gene corresponds to a high tendency for the avatar to respond to a low priority stimulus. Curiosity may also determine the tendency for the head to roll by small degrees, as in the curious cocking of the head in a new situation. See column 19, lines 20-34.

15. It is noted that while a plurality of tags is not explicitly disclosed, multiple instances of tags at various locations are utilized, through example, as disclosed above - In particular the action(s) taken by a character in reaction introduced elements (both high and low priority).

16. In regards to claim 7 Ventrella et al. discloses:

(a) defining a plurality of tags at defined location within the virtual world, wherein each tag designates a reaction to be made by the character when the character is within a predefined virtual proximity to the tag;

- In regards to claim 7(a) the rationale provided in the rejection of claim 6 is incorporated herein.

(b) assigning a priority value to each tag;

- In regards to claim 7(b) the rationale provided in the rejection of claim 6 is incorporated herein.
- For example, rather than using a pseudorandom number generator, a simple yes or no decision can be made pseudorandomly to decide whether the avatar should respond to each non-priority stimulus. See column 19, lines 59-67, and column 20, lines 1-4.

(c) allowing a user to control the movement of the character within the virtual world;

- In regards to claim 7(c) the rationale provided in the rejection of claim 1(b) is incorporated herein.

(d) when the character is not within the predefined virtual proximity to any of the tags, using a stored animation sequence to animate the character within the virtual world;

- In regards to claim 7(b) the rationale provided in the rejection of claim 2 is incorporated herein.

(e) when the character is within the predetermine virtual proximity to at least one of the tags, generating a dynamic animation sequence for the character based on the tag having the highest priority among the tags within the predetermined proximity to the character.

- In regards to claim 7(e) the rationale provided in the rejection of claim 6 is incorporated herein.

17. In regards to claim 8 the rationale provided in the rejection of claim 2 is incorporated herein.

18. In regards to claim 9 the rationale provided in the rejection of claim 3 is incorporated herein.

19. In regards to claim 10 the rationale provided in the rejection of claim 4 is incorporated herein.

20. In regards to claim 11 the rationale provided in the rejection of claim 5 is incorporated herein.

21. In regards to claim 12 Ventrella et al. discloses:

(a) defining a tag in the virtual world, wherein the tag includes a reaction code which designates a reaction for the object when the object is within a defined virtual proximity to the location of the tag;

- In regards to claim 12(a) the rationale provided in the rejection of claim 1(a) is incorporated herein.

(b) moving the object within the virtual world using a stored animation sequence when the object is not within the defined virtual proximity to the tag; and

- In regards to claim 12(b) the rationale provided in the rejection of claim 2 is incorporated herein.

(c) dynamically generating an animation sequence for the object correspond to the reaction code of the tag when the object is within the define virtual proximity to the tag.

- In regards to claim 12(c) the rationale provided in the rejection of claim 1(d) is incorporated herein.
22. In regards to claim 13 the rationale provided in the rejection of claims 6, 7(b) and 7(e) are incorporated herein.
23. In regards to claim 14 the rationale provided in the rejection of claim 3 is incorporated herein.
24. In regards to claim 15 the rationale provided in the rejection of claim 4 is incorporated herein.
25. In regards to claim 16 the rationale provided in the rejection of claim 5 is incorporated herein.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Handelman et al. (U.S. Patent No. 6, 191, 798). Handelman et al. discloses that is known to use to use inverse kinematics together with keframing for computer animation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter-Anthony Pappas whose telephone number is 703-305-8984. The examiner can normally be reached on M-F 9:45am-6:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on 703-305-3885. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

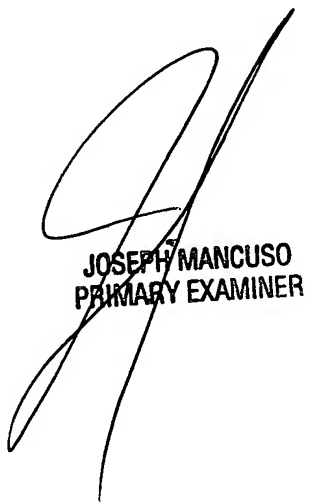
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Peter-Anthony Pappas
Examiner
Art Unit 2671

PAP



JOSEPH MANCUSO
PRIMARY EXAMINER